APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,498	01/05/2001	Michael Yip	2717P030	5235

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD, SEVENTH FLOOR
LOS ANGELES, CA   90025

EXAMINER
WON, YOUNG N

ART UNIT	PAPER NUMBER
2155	11

DATE MAILED: 08/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

	Application No.		Applicant(s)	
Office Action Summary	09/755,498		YIP, MICHAEL	
	Examiner		Art Unit	
	Young N Won		2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE **3** MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

   If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____ .

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

   a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-24 has been re-examined and the amendments and arguments noted

and addressed, respectively.

Response to Amendment

2.   Claims 1-20, and 22-24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Crinion et al. (U.S. Pat.No.6181699 B1) in view of Biedron (SPIE

Proceedings Vol.2609 Paper No.2609-06).

As per claim 1, Crinion teaches of an aggregated virtual local area network

(VLAN) (see col.13 lines 25-31) architecture system comprising an edge switch (see

Abstract and col.4 lines 45-48) comprising at least one of a plurality of sub-VLANs (see

col.13 lines 25-31), and wherein the edge switch applies a modified bridge forwarding

rule to exchange VLAN ID associated with the sub-VLAN for a VLAN ID associated with

the super-VLAN before forwarding a data packet from the sub-VLAN over the MAN

using the at least one of a router and a switch (see col.3 line 33: or if a tag replacement

is desired, col.4 lines 14-18, and col.13 lines 19-21 & 25-31). Crinion does not teach of

a metropolitan area network MAN connected to a super-VLAN. Biedron teaches that

the system comprises a metropolitan area network MAN connected to a super-VLAN

(see Title). It would have been obvious to a person of ordinary skill in the art, at the

time the invention was made, to employ the teaching of Biedron within the system of

Crinion, by implementing a MAN connected to a super-VLAN, because connection of

one network to another is by preference of necessity rather than an invention. There is

no specific invention involved with the addition of MAN. It is well known to a person of

ordinary skill in the art that the super-VLAN can in fact be connected to any network so

desired as needed or wanted such as LAN, MAN, WAN, or another super-VLAN, and

networks consist of a router, switch, hubs, or any bridging mechanism, within a network

or between networks.

As per claim 2, Crinion further teaches wherein the edge switch further applies a

modified bridge media access control (MAC) (see col.1 lines 12-15 and col.5 lines 26-

27) address learning rule (see col.9 lines 66-67 and col.10 lines 1-2) to prevent the data

packet from the sub-VLAN from being forwarded to a different sub-VLAN, the MAC

address learning rule comprising a MAC address entry in a forwarding data base (FDB)

(see col.2 lines 55-57, col.6 lines 4-9, and col.10 lines 2-4) for each of the plurality of

sub-VLANs and the super-VLAN (see col.13 lines 26-28).

As per claims 3 and 4, Crinion further teaches wherein the MAC address entry is

added to the FDB for the sub-VLAN and the super-VLAN when a new MAC address is

learned from the sub-VLAN, and wherein the MAC address entry is added to the FDB

for each of the plurality of sub-VLANs and the super-VLAN when the new MAC address

is learned from the super-VLAN (see col.9 lines 66-67: "learns, stores, and maintains").

As per claim 5, Crinion further teaches wherein the edge switch applies the

modified bridge forwarding rule to exchange a VLAN ID associated with the super-VLAN

for a VLAN ID associated with the sub-VLAN before forwarding a data packet from the

super-VLAN to a customer associated with the sub-VLAN (see col.3 lines 32-43: or if

tag replacement is desired).

As per claims 6, 8 and 22, Crinion further teaches wherein the VLAN ID

associated with the sub-VLAN and the VLAN ID associated with the super-VLAN is

obtained from a header encapsulating the data packet. Ross teaches of a header

encapsulating a data packet (see Fig.4 and col.3 lines 65-67 to clo.4 lines 1-4).

As per claims 7 and 9, Crinion further teaches that the wherein the header

encapsulating the data packet is an 802.1 Q frame tag (see col.1 lines 15-18, col.2 lines

63-65, and col.4 lines 1-3).

As per claims 10 and 11, Crinion further teaches wherein the VLAN ID

associated with the sub-VLAN is obtained from an internal value stored in the edge

switch, and wherein the VLAN ID associated with the super-VLAN is obtained from a

second internal value stored in the edge switch (see col.3 line 33: or if a replacement

tag is desired and col.13 lines 40-44). As far as the data stored that is associated with

received data, it is only limited in number as far as the size of the memory itself and

according to its functionality and purpose.

As per claims 12 and 18, Crinion teaches a method of aggregating multiple

VLANs (see col.13 lines 25-31) and an article of manufacture comprising a

machine-accessible medium having stored thereon a plurality of instructions for

aggregating multiple VLANs (see col.10 line 61, col.12 lines 7, 15, 22, & 52, and col.13

lines 20, 22, & 23) comprises: classifying a data packet originating from a sub-VLAN in

accordance with an aggregated VLAN configuration, the aggregated VLAN

configuration associating the sub-VLAN with a sub-VLAN ID and a super-VLAN ID;

exchanging the sub-VLAN ID for the super-VLAN ID before forwarding the data packet

(see col.3 lines 30-35); classifying a data packet originating from a super-VLAN in

accordance with the aggregated VLAN configuration, the aggregated VLAN

configuration further associating the super-VLAN with a super-VLAN ID and at least one

of a plurality of sub-VLAN IDs; exchanging the super-VLAN ID for the at least one

sub-VLAN ID before forwarding the data packet to a customer associated with the at

least one sub-VLAN ID (see col.3 lines 30-35 and col.13 lines 25-31 & 40-44). Crinion

does not teach of a metropolitan area network MAN connected to a super-VLAN.

Biedron teaches that the system comprises a metropolitan area network MAN

connected to a super-VLAN (see Title). It would have been obvious to a person of

ordinary skill in the art, at the time the invention was made, to employ the teaching of

Biedron within the system of Crinion, by implementing a MAN connected to a super-

VLAN, because connection of one network to another is by preference of necessity

rather than an invention. There is no specific invention involved with the addition of

MAN. It is well known to a person of ordinary skill in the art that the super-VLAN can in

fact be connected to any network so desired as needed or wanted such as LAN, MAN,

WAN, or another super-VLAN, and networks consist of a router, switch, hubs, or any

bridging mechanism, within a network or between networks.

As per claim 13, Crinion further teaches wherein the classification comprises

obtaining the sub-VLAN ID and the super-VLAN ID from a tag in the data packet (see

Fig.3 and Fig.4), and verifying the obtained VLAN IDs in accordance with the

aggregated VLAN configuration values stored in the switch that performs the

classification (see col.3 lines 9-15 & 31-43).

As per claim 14, Crinion further teaches wherein the tag is an 802.1 Q frame tag

(see col.2 lines 63-65).

As per claim 15, Crinion further teaches wherein the classification comprises

obtaining the sub-VLAN ID and the super-VLAN ID from the aggregated VLAN

configuration values stored in the switch that performs the classification (see col. 13

lines 40-44).

As per claim 16, Crinion further teaches comprising: preventing the data packet

originating from the sub-VLAN from being forwarded to a different sub-VLAN using a

modified MAC address-learning rule (see col.9 lines 66-67 and col.10 lines 1-2).

As per claim 19, Crinion teaches a method for controlling processing of data packets in

a switch comprising: propagating a data packet originating from one of a plurality of

sub-VLANs, the plurality of sub-VLANs belonging to a super-VLAN (see col.13 lines 25-

31); exchanging a VLAN ID identifying the originating sub-VLAN with a super-VLAN ID

identifying the super-VLAN to which the originating sub-VLAN belongs (see col.3 lines

30-35 and col.13 lines 40-44); controlling the processing of the data packet in

accordance with the exchanged super-VLAN ID and a destination Media Access Control

(MAC) (see col.3 lines 2-4) address specified in the data packet. Crinion does not teach

of a metropolitan area network MAN connected to a super-VLAN. Biedron teaches that

the system comprises a metropolitan area network MAN connected to a super-VLAN

(see Title). It would have been obvious to a person of ordinary skill in the art, at the

time the invention was made, to employ the teaching of Biedron within the system of

Crinion, by implementing a MAN connected to a super-VLAN, because connection of

one network to another is by preference of necessity rather than an invention. There is

no specific invention involved with the addition of MAN. It is well known to a person of

ordinary skill in the art that the super-VLAN can in fact be connected to any network so

desired as needed or wanted such as LAN, MAN, WAN, or another super-VLAN, and

networks consist of a router, switch, hubs, or any bridging mechanism, within a network

or between networks.

As per claim 17, Crinion further teaches wherein the modified MAC address

learning rule comprises a MAC address entry in a table (see col.12 line 51) stored in the

switch performing the classification, wherein the MAC address entry is added for each

of the sub-VLAN and the super-VLAN when the MAC address is learned from the

sub-VLAN, and wherein the MAC address entry is added for all of the plurality of

sub-VLANs in the aggregated VLAN configuration and the super-VLAN when the MAC

address is learned from the super-VLAN (see Fig.10, col.9 lines 66-67 to col.10 lines 1-

4, and col.12 lines 51-57).

As per claim 20, Crinion teaches of an edge switch for controlling processing of

data packets comprising: a port (see Abstract: received at a port) for receiving a data

packet (see Abstract: frame) on an edge switch (see Abstract and col.4 lines 45-48)

originating from one of a plurality of VLANs (see col.13 line 27: multiple VLANS, the

plurality of VLANs associated with a super-VLAN (see col.13 lines 27-28: one of which

would be a superset of the other); a means for assigning a VLAN ID to the data packet

that identifies the originating VLAN (see col.1 lines45-46); a verifier means for verifying

that the assigned VLAN ID matches a value in a memory of the edge switch (see col.5

lines 35-37); a controller for controlling the processing of the verified data packet to

exchange the verified VLAN ID for a super-VLAN ID that identifies the associated

super-VLAN (see col.3 lines 30-35 and col.13 line 37: Receive Side CAM); and a means

for propagating the processed data packet (col.2 lines 50-51). Crinion does not teach of

a metropolitan area network MAN connected to a super-VLAN. Biedron teaches that

the system comprises a metropolitan area network MAN connected to a super-VLAN

(see Title). It would have been obvious to a person of ordinary skill in the art, at the

time the invention was made, to employ the teaching of Biedron within the system of

Crinion, by implementing a MAN connected to a super-VLAN, because connection of

one network to another is by preference of necessity rather than an invention. There is

no specific invention involved with the addition of MAN. It is well known to a person of

ordinary skill in the art that the super-VLAN can in fact be connected to any network so

desired as needed or wanted such as LAN, MAN, WAN, or another super-VLAN, and

networks consist of a router, switch, hubs, or any bridging mechanism, within a network

or between networks.

As per claim 23, Crinion further teaches wherein the value in the memory of the

edge switch is comprised of an aggregated VLAN configuration (see col.13 lines 40-45).

As per claim 24, Crinion further teaches an edge switch comprising a port (see

Abstract: received at a port) for receiving the data packet from the super-VLAN; a

means for assigning a super-VLAN ID to the data packet that identifies the originating

super-VLAN (see Title); a means for verifying that the assigned super-VLAN ID matches

a second value in a memory of the edge switch (see col.2 lines 55-57); the means for

controlling the processing of the verified data packet further including a means to

exchange the verified super-VLAN ID for a VLAN ID that identifies the destination VLAN

(see col.3 lines 32-38 and col.13 lines 40-44); and the means for propagating the

processed data packet further including a means for propagating the data packet to a

customer associated with the destination VLAN (col.13 lines 46-47).

3.   Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crinion

et al. (U.S. Pat.No.6181699 B1) and Biedron (SPIE Proceedings Vol.2609 Paper

No.2609-06) as applied to claim 20 above, and further in view of Kinoshita (U.S.

Pat.No.5802047). Crinion and Biedron teaches all the limitations of claim 21 except

wherein the means for assigning the VLAN ID includes deriving the identity based on

the contents of the data packet's source Internet Protocol (IP) address. Kinoshita

teaches wherein the means for assigning the VLAN ID includes deriving the identity

based on the contents of the data packet's source Internet Protocol (IP) address (see

Fig.4 and col.2 lines 4-5). It would have been obvious to a person of ordinary skill in the

art, at the time the invention was made, to employ the teachings of Kinoshita within the

system of Crinion and Biedron, by assigning VLAN ID based on IP address within the

edge switch system, because IP address is a unique address of the locations assigned

to each network within the Internet. Therefore since IP address is unique and VLAN ID

must be unique, unwanted information hopping will be eliminated.

Response to Arguments

4.   In response to establishing a *prima facie* case of obviousness, all three criteria

are met by the title and abstract of the reference.

5.   In response to claims 1, 12, 18, 19, and 20, "super" and "sub" are labels, which

describe a superset and a set, respectively. Crinion clearly teaches of VLAN tags (see

col.3 lines 13-14), which include VLAN ID (see Fig.3 and Fig.4). Crinion also teaches

that the circuit can replace or assign tags if the frame lacks a tag or if a replacement tag

is desired (see col.3 lines 31-35). Therefore, by programming the switch (see col.13

lines 22-24), it would be possible to replace one tag with a set of VLAN ID with another

tag with a superset (see col.13 line 28) of a VLAN ID.

6.   In response to claim 2, Crinion clearly shows a MAC address-learning rule (see

col.9 lines 66-67 and col.10 lines 1-2), which prevents data packets from one VLAN

from being forwarded to a different VLAN ("which it uses in making packet forwarding

decisions"), which comprises a MAC address entry ("maintains MAC address

information") in a FDB for each of the plurality of VLANs (see col.2 lines 59-62, col.4

lines 32-35, col.10 lines 2-4, and col.13 lines 7-15).

7.   In response to claims 3 and 4, Crinion clearly teaches adding when new address

is learned (see col.9 lines 66-67: "learns, stores, and maintains"). As per referencing to

seven sections is merely to show how the claims can be rejected with any one of the

references due to its broadness.

8.   In response to claim 5, same reasoning as response no.5 applies.

9.   In response to claims 12 and 18, same reasoning as response no.5 applies.

10.   In response to claim 13, new references have been addressed above, in claim 13

rejection.

11.   In response to claim 19, new reference has been addressed above, in claim 19

rejection.

12.   In response to claim 6-9 and 22, the rejection has been re-addressed.

13.   In response to claim 21, the rejection has been re-addressed.

Conclusion

"Associating", "obtaining", preventing", "learned", need to be clearly stated as

to how these actions are occurring. It is the duty of the examiner to protect the interest

of the public by examining each claim, as it is broadly limited. If there was clearly more

emphasis on how the "modified bridge forwarding rule" is implemented and used, to

suffice the modification distinguishable from other bridge forwarding rules, methods, or

apparatus, then the applicant's invention might necessitate an invention.

By simply doing what other have already done with different devices or networks

does not make an idea patentable, unless there is clearly shown an improvement and

as to why different devices or networks are needed.

Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Young N Won whose telephone number is 703-605-4241. The examiner can normally be reached on M-Th: 8AM-6PM.
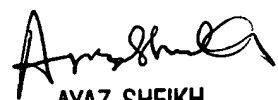
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R Sheikh can be reached on 703-305-9648. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-305-5352 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Young N Won

August 12, 2002